



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/825,153	04/02/2001	Simon Jacobs	500741.01	2353

27076 7590 09/23/2005

DORSEY & WHITNEY LLP
INTELLECTUAL PROPERTY DEPARTMENT
SUITE 3400
1420 FIFTH AVENUE
SEATTLE, WA 98101

EXAMINER

JARRETT, SCOTT L

ART UNIT	PAPER NUMBER
----------	--------------

3623

DATE MAILED: 09/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/825,153

Applicant(s)

JACOBS ET AL.

Examiner

Scott L. Jarrett

Art Unit

3623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-15, 20-26 and 35-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-15, 20-26 and 35-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/7/05.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

1. This **Final** Office Action is responsive to Applicant's amendment filed July 7, 2005. Applicant's amendment amended claims 11-15, 20-26 and 35-41 and canceled claims 1-10, 16-19 and 27-34. Currently claims 11-15, 20-26 and 35-42 are pending.

Response to Amendment

2. The objection to the drawings in the First Office Action, dated March 4, 2005, is withdrawn in response to the Applicant's submission of corrected drawings.

3. The 35 U.S.C. 101 rejection of Claim 1-19 and 26-34 in the First Office Action is withdrawn in response to the Applicant's cancellation of Claims 1-10, 16-19 and 27-34 and amendments to Claims 11 and 26.

Response to Arguments

4. Applicant's arguments filed July 7, 2005 have been fully considered but they are not persuasive. Specifically Applicant argues that Wolfinger et al. fails to:

- describe programming a programmed constraint to supplement or change a fixed constraint (Page 10, Paragraph 1);
- discuss fixed and configurable rules (Page 10, Paragraph 2); and
- describe scheduling orders and workers in accordance with the configurable/fixed rules/constraints (Page 11, Paragraph 1).

Regarding applicant's argument that the Wolfinger et al. fails to describe programming (setting, configuring, inputting, entering, etc.) programmed constraints rule, parameter, value, constant, etc.) to supplement or change a fixed constraint (rule, parameter, value, constant, etc.), discuss fixed and configurable rules and scheduling orders and workers in accordance with the configurable/fixed rules/constraints examiner respectfully disagrees. Wolfinger et al. teach a configurable work order scheduling system comprising workflow, workforce management and scheduling subsystems and further wherein the system utilizes a well known and commercially available rules/inference and scheduling engines (ILOG – Solver, Rules, Scheduler) to solve/schedule and optimize the assignment of workers and orders (Column 2, Lines 52-58; Column 9, Lines 28-68; Column 10, Lines 1-8).

More specifically Wolfinger et al. teach that the configurable scheduling system and method utilizes a plurality of constraints (parameters, values, criteria, etc.) which alter (effect, determine, direct, etc.) the assignment of workers and orders and that the constraints are programmed (set, entered, decided upon, etc.) by the user of the system including but not limited to: utilization percentage, finish before/after, time slot duration, customer value, customer/order priority, geographic region, calendar and the like (Column 3, Lines 40-50; Column 4, Lines 16-21; Column 6, Lines 1-9; Column 13, Lines 1-61; "Constraints are also entered by the operation in operation 1020 of Figure 6. These constraints comprise such items as "start after a specific data" or "finish before a specific date.", Column 13, Lines 44-46).

Wolfinger et al. teach that the configurable scheduling system and method utilizes a plurality of fixed constraints (constants, criteria, parameters, etc.) including but not limited to not yielding empty schedules, minimizing risk, minimizing costs and the like (Column 2, Lines 15-19 and 63-68; Column 4, Lines 8-11).

Wolfinger et al. further teach that the configurable scheduling system and method utilizes a plurality of rules and templates which control/determine (effect, alter, direct, etc.) the assignment of workers and orders and that are programmed (set, entered, decided upon, etc.) by the user:

- "A calendar rule defines the dates and times a workforce resource for a resource pool is either available or unavailable for assignment." (Column 6, Lines 5-9);
- workflow templates, defined by the user, which define order and duration of the set of tasks necessary to complete an order/assignment, support conditional branching and are "taken as input into the planning and optimization process" (Column 6, Lines 62-68; Column 7, Lines 1-12; Column 11, Lines 57-62; Column 12, Lines 44-68; Figures 3-4); and
- rules processing is best described "as a set of interacting rules that govern actions in response to known conditions." (Column 9, Lines 41-45).

5. It is noted that the applicant did not challenge the Official Notice(s) cited in the First Office Action therefore those statements as presented are herein after prior art. Specifically it has been established that it was old and well known in the art at the time of the invention:

Art Unit: 3623

- to assign a variable (custom, unique) label to a rule (set of rule, constraints, parameters, etc.) as a means for identifying, managing, accessing, and manipulating rules (data, constants, constraints, etc.);
- to use delimiters (text or otherwise) as a means for visually or programmatically distinguishing (identifying) a plurality of parts (sections, operators, modules, etc.); and
- to include a set operator as part of a rules/inference engine as a means for grouping information (data, elements, etc.) of interest.

Information Disclosure Statement

6. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

The attempt to incorporate subject matter into this application by reference to Enterprise Scheduling System (ESS) Function Specification, version 4.1 is improper (Specification; Page 4, Lines 13-16).

Appropriate correction required.

Examiner request applicant provide a copy of the above subject matter.

Title

7. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: System and Method for Assigning Orders to Workers Utilizing Configurable Constraints and Rules.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 11-15, 20-26 and 35-42 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Wolfinger et al., U.S. Patent No. 6,415,259.

Regarding Claim 11 Wolfinger et al. teach a scheduling system for performing a schedule process, comprising (Abstract; Column 2, Lines 54-58; Column 3, Lines 1-68; Column 4, Lines 1-28; Column 6, Lines 56-68; Column 7, Lines 1-13 and 53-58; Column 9, Lines 1-68; Columns 10-12; Column 17, Lines 60-68; Figures 4-9):

- programming a programmed constraint set (rules, expressions, etc.) to supplement or change a fixed constraint set (values, rules, expressions, templates, parameters, etc.); and
- executing a scheduling process that performs a process of scheduling orders to a worker in accordance with the programmed constraint set and the fixed constraint set.

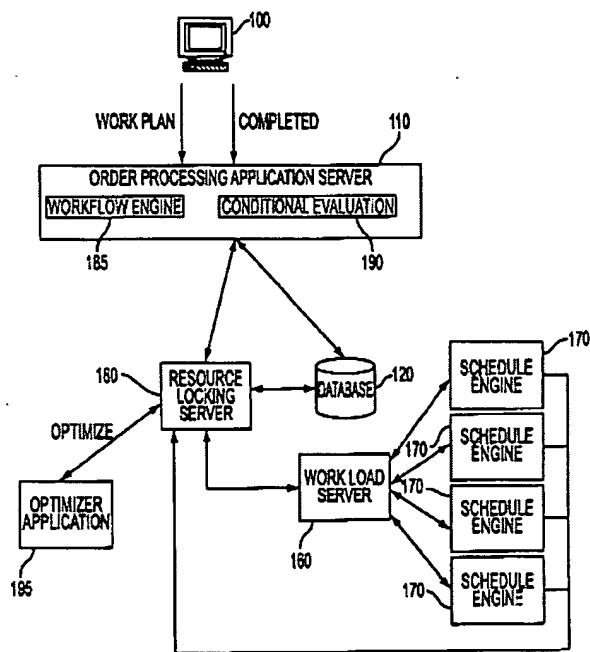


FIG. 4

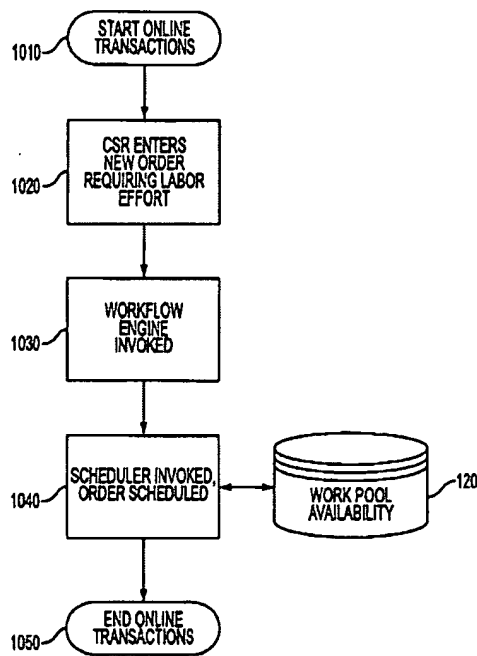


FIG. 6

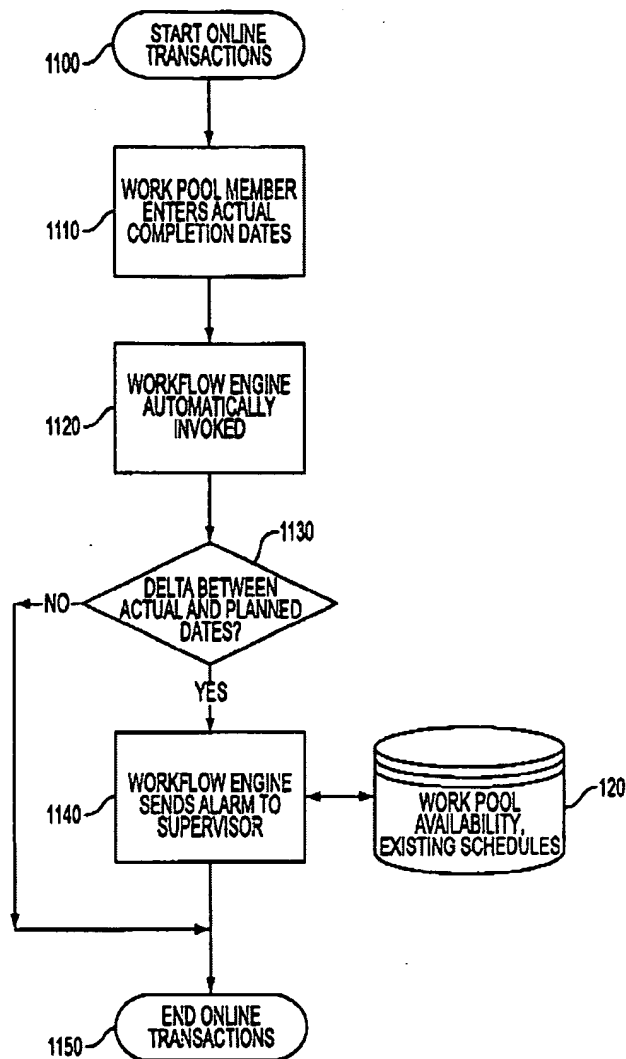


FIG. 7

Regarding Claim 12 Wolfinger et al. teach a scheduling system comprising programmed constraint sets wherein the programmed constraint sets comprises programmable rules and constants as discussed above.

Regarding Claim 13 Wolfinger et al. teach the translation of a plurality of rules from a defined configurable rule convention into a predefined grammar (ILOG; Column 9, Lines 25-68; Column 10, Lines 1-64; Column 11, Lines 1-68).

Regarding Claim 14 Wolfinger et al. teach compiling a plurality of rules into a library (repository, database) that is used when the scheduling process is performed (Column 13, Lines 35-40; Claim 3; Figure 4, 120).

Regarding Claim 15 Wolfinger et al. teach a scheduling system wherein the execution (running, performing, etc.) of the scheduling process comprises performing the scheduling process according to a standard process (template) except where a plurality of rules have altered performance of the scheduling process to a reconfigured process (realistic workflow, actual workflow; Abstract; Column 2, Lines 54-58; Column 3, Lines 1-68; Column 4, Lines 1-28; Column 6, Lines 56-68; Column 7, Lines 1-13 and 53-58; Column 9, Lines 1-68; Columns 10-12; Column 17, Lines 60-68; Figures 4-9).

Regarding Claim 20 Wolfinger et al. teach a scheduling system comprising (Abstract; Column 2, Lines 54-58; Column 3, Lines 1-68; Column 4, Lines 1-28; Column 6, Lines 56-68; Column 7, Lines 1-13 and 53-58; Column 9, Lines 1-68; Columns 10-12; Column 17, Lines 60-68; Figures 4-9):

- storing a set of rules have a set of fixed business rules and a set of configurable rules (memory, database, queue, etc.; Figure 3; Figure 4, Element 120; Figure 9); and
- the execution (running, performing, etc.) of a schedule process that performs a schedule process of scheduling orders and workers in accordance with a set of rules.

Regarding Claim 21 Wolfinger et al. teach a scheduling system wherein execution of the scheduling process includes invoking (calling, running, executing, using, etc.) rules from a defined location (memory, storage, database, program, application, library, etc.) in a negotiation algorithm (process, approach, procedure, steps, etc.; Abstract; Column 2, Lines 54-58; Column 3, Lines 1-68; Column 4, Lines 1-28; Column 6, Lines 56-68; Column 7, Lines 1-13 and 53-58; Column 9, Lines 1-68; Columns 10-12; Column 17, Lines 60-68; Figures 5-9; Figure 4, Element 120).

Regarding Claim 22 Wolfinger et al. teach a scheduling system wherein the system executes an assignment algorithm in accordance with a set of rules as altered by a set of configurable rules to assign orders to a worker (Abstract; Column 2, Lines 54-58; Column 3, Lines 1-68; Column 4, Lines 1-28; Column 6, Lines 56-68; Column 7, Lines 1-13 and 53-58; Column 9, Lines 1-68; Columns 10-12; Column 17, Lines 60-68; Figures 4-9).

Regarding Claim 23 Wolfinger et al. teach a scheduling system further executes an optimization algorithm in accordance with a set of rules as altered by a set of configurable rules to assign orders to workers (Abstract; Column 2, Lines 54-58 and 63-68; Column 3, Lines 1-68; Column 4, Lines 1-28; Column 6, Lines 56-68; Column 7, Lines 1-13 and 53-58; Column 9, Lines 1-68; Columns 10-12; Column 17, Lines 60-68; Figures 5-9; Figure 4, Element 195).

Regarding Claim 24 Wolfinger et al. teach a scheduling system wherein the system executes negotiation, assignment and optimization algorithms in accordance with the set of rules as altered by the set of configurable rules to schedule orders to a worker as discussed above.

Regarding Claim 25, Claim 25 recites similar limitations to Claims 13-14 and is therefore rejected using the same art and rationale as applied in the rejection of Claims 13-14.

Regarding Claim 26 Wolfinger et al. teach a scheduling system, comprising (Abstract; Column 2, Lines 54-58 and 63-68; Column 3, Lines 1-68; Column 4, Lines 1-28; Column 6, Lines 56-68; Column 7, Lines 1-13 and 53-58; Column 9, Lines 1-68; Columns 10-12; Column 17, Lines 60-68; Figures 4-9):

- an algorithm (procedure, process, formula, rules, etc.) for negotiating the reservation of work orders (work to workers);

Art Unit: 3623

- an algorithm for assigning work orders to workers; and
- a set of rules that are invoked (called, executed, used, etc.), the set of rules including a fixed set of business rules augmented by a set of programmable rules for altering execution of the algorithms from execution according to only the fixed set of business rules.

Regarding Claim 35 Wolfinger et al. teach a method for configuring a schedule process comprising (Abstract; Column 2, Lines 54-58; Column 3, Lines 1-68; Column 4, Lines 1-28; Column 6, Lines 56-68; Column 7, Lines 1-13 and 53-58; Column 9, Lines 1-68; Columns 10-12; Column 17, Lines 60-68; Figures 4-9):

- scheduling an order (appointment, service, etc.) into a shift (schedule, time slot, time periods) of a worker according to a set of rules (set of constraints, workflow, configurable criteria, parameters, constraints, templates, execution predicates, execution conditions, etc.); and
- configuring (programming) a set of rules to change the act of scheduling.

Regarding Claim 36 Wolfinger et al. teach a scheduling system wherein configuring comprises programming a rule to control which orders are considered in the schedule (Column 3, Lines 27-68; Column 12, Lines 55-68; Column 16, Lines 18-68). More specifically Wolfinger et al. teach that the scheduling system utilizes a plurality of rules for determining which orders are to be considered including but not limited to order priority, due date, cost minimization, tightness, customer value, dependency, location

Art Unit: 3623

and the like (Column 2, Lines 63-68; Column 3, Lines 27-68; Column 12, Lines 55-68; Column 16, Lines 18-68).

Regarding Claim 37 Wolfinger et al. teach a scheduling system wherein configuring comprises programming rule to control which workers are considered in the schedule process (Column 6, Lines 1-5; Column 5, Lines 34-52; Column 36, Lines 11-27). More specifically Wolfinger et al. teach that a plurality of rules (constraints, parameters, etc.) are used to control which workers are considered in the schedule process including but not limited to working calendar (calendar rule), existing schedule, availability, location, resource pools (skills) and the like (Column 5, Lines 34-52; Column 6, Lines 1-5; Column 11, Lines 38-65; Column 12, Lines 1-12; Column 36, Lines 11-27).

Regarding Claim 38 Wolfinger et al. teach a scheduling system wherein configuring comprises programming rule to control whether an order can be assigned to a worker (Column 2, Lines 63-68; Column 6, Lines 1-5; Column 5, Lines 34-52; Column 36, Lines 11-27). More specifically Wolfinger et al. teach that a plurality of rules (constraints, parameters, etc.) are used to control whether or not an order can be assigned to a worker including but not limited to working calendar (calendar rule), existing schedule, availability, location, resource pools and the like (Column 5, Lines 34-52; Column 6, Lines 1-5; Column 11, Lines 38-65; Column 12, Lines 1-12; Column 36, Lines 11-27).

Regarding Claim 39 Wolfinger et al. teach a scheduling system wherein configuring comprises programming a rule to provide (calculate, determine, evaluate, etc.) a value (score, parameter, etc.) when solving the scheduling problem (constraint programming, comparing workers to an order; evaluating business rules; Column 9, Lines 48-60).

Regarding Claim 40 Wolfinger et al. teach that the scheduling system further comprises programming a set of constants (variables, parameters, values, templates, etc.) to control the flow of execution within rules as discussed above. Wolfinger et al. further teaches the replacement of the global constants, e.g. utilization parameter, that would otherwise require the explicitly reference in the configured set of rules (Column 3, Lines 5-11; Column 5, Lines 10-16).

Regarding Claim 41 Wolfinger et al. teach a scheduling system wherein scheduling comprises negotiating (discussing, taking, placing, entering, etc.) a reservation (order, appointment, etc.), assigning the reservation (order), and optimizing the reservation (Abstract; Column 3, Lines 1-68; Column 4, Lines 1-28; Column 6, Lines 56-68; Column 7, Lines 1-13 and 53-58; Column 9, Lines 1-68; Columns 10-12; Column 17, Lines 60-68; Figures 6-8).

Regarding Claim 42 Wolfinger et al. teach a scheduling system comprising the execution of a scheduling process that performs the process of scheduling orders to

Art Unit: 3623

workers in accordance with a programmed constraint set and a fixed constraint set, the programmed constraint set augmenting the fixed constraint set to alter the performance of the schedule process to a desired configuration (Abstract; Column 2, Lines 54-58 and 63-68; Column 3, Lines 1-68; Column 4, Lines 1-28; Column 6, Lines 56-68; Column 7, Lines 1-13 and 53-58; Column 9, Lines 1-68; Columns 10-12; Column 17, Lines 60-68; Figures 4-9).

Conclusion

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Du et al., U.S. Patent No. 5,826,239, teach a well-known and commercially available workflow management system (HP OpenPM) wherein users program rules and constraints to define workflows wherein resources are assigned to workflow tasks/activities/processes.

- Davis et al., U.S. Patent No. 5,870,545, teach a user configurable and flexible workflow management system wherein resources are assigned to complete workflow activities and further wherein user programmed constraints/rules are utilized to compensate for failed processes/activities.

- Tarumi, Hiroyuki, U.S. Patent No. 6,115,640, teach a user configurable/programmable workflow management system and method.

Art Unit: 3623

- Smirnov et al., U.S. Patent No. 6,546,364, teach a user configurable adaptive workflow management system and method.

- Bacon et al., U.S. Patent No. 6,697,784, teach a user configurable/programmable workflow management system and method.

- Brodersen et al., U.S. Patent No. 6,850,895, teach a method and system for assigning resources to tasks/activities in a resource-constrained system wherein the system utilizes resource attributes (constraints) and assignment rules to assign resources to tasks (orders).

- Blumberg, David, Optimizing Mobile Workforce, teaches a plurality of well known and commercially available workforce and order scheduling systems and methods.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott L. Jarrett whose telephone number is (571) 272-7033. The examiner can normally be reached on Monday-Friday, 8:00AM - 5:00PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hafiz Tariq can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3623

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


SJ

9/19/2005


TARIQ R. HAFIZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3800